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EXAMINER

CLEARY, THOMAS J

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 08/12/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/755,499

Applicant(s)

BAILEY, JOSEPH A.

Examiner

Thomas J. Cleary

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed December 7, 2001 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Number 5 on Page 7, Line 4; Numbers 35A and 35B on Page 7, Line 8; Numbers 76, 77, and 78 on Page 7, Line 10 and Page 9, Line 20; Number 125D on Page 9, Line 6; Number 60C on Page 9, Line 12. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Figure 3A, Number 320. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are

required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because: reference character "40" has been used to designate both "system memory" on Page 7, Line 5 and "main memory" in Figure 1; reference character "250" has been used to designate both "downstream I/O buffer" on Page 12, Line 14 and "downstream reorder logic" in Figure 2. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to because: in Figure 2, Items 125A-C are not shown coupled to Item 175 as stated on Page 9, Line 6; in Figure 3A, Step 310 does not proceed to Step 330 as indicated on Page 11, Lines 17-22; in Figure 3B, the branch does not occur in Step 430, as stated on Page 12, Line 20. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 2, 3, 7, 8, 17, 18, 19, 23, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Ruszczyk. In reference to Claims 1 and 17, Ruszczyk teaches a sorter (analogous to the router of Claim 1) that will receive the upstream packets and route them to one of a plurality of upstream queues (analogous to the buffers of Claim 1) based on the priority of the packet (analogous to the identifiers of Claims 1 and 17) (See Figure 4, Column 3 Lines 16-19 and 50-58 of Ruszczyk). In reference to Claims 2 and 18, Ruszczyk teaches a plurality of schedulers (analogous to the reorder logic circuits of Claim 2), whose operation is based on a set of predetermined criteria, connected to the queues that determine the order of transmission based on the priority of the packets (See Figure 4, Column 3 Lines 58-67, and Column 4 Lines 1-4 of Ruszczyk). In reference to Claims 3 and 19, Ruszczyk teaches a downstream queue (analogous to the buffers of Claims 3 and 19) for receiving packets with a priority (analogous to the identifiers of Claims 3 and 19) and a scheduler (analogous to the reorder logic circuit of Claim 3), whose operation is based on a set of predetermined criteria, connected to the queue that determines the order of transmission based on the priority of the packets (See Figure 4, Column 3 Lines 11-15 and 50-67, and Column 4 Lines 1-4 of Ruszczyk). In reference to Claims 7, 8, 23, and 24, Ruszczyk teaches that packets with the same priority (analogous to the identifiers of Claims 7, 8, 23, and 24)

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are routed to the same queue (analogous to the buffers of Claims 7, 8, 23, and 24) and packets with different priorities are routed to different queues (See Figure 4 and Column 3 Lines 55-58 of Ruszczyk).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruszczyk in view of Cidon et al. ("Cidon"). Ruszczyk teaches all the limitations of Claims 4 and 20 except for the predetermined criteria including the arrival times and transaction types of each of the plurality of upstream and downstream packets (See Figure 4, Column 3 Lines 11-19 and 50-67, and Column 4 Lines 1-4 of Ruszczyk). Cidon teaches a network interface that determines packet parameters including arrival time and packet type (See Column 14 Lines 55-60 of Cidon). One of ordinary skill in the art at the time the invention was made would combine the apparatus of Ruszczyk with the parameters of Cidon, resulting in the invention of Claims 4 and 20, in order to provide further information for use by the weighted round robin scheduler for assigning a transmission deadline and choosing the order that the data will be transmitted (See Column 5 Lines 35-60 of Ruszczyk).

10. Claims 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruszczyk and Cidon as applied to Claims 1-4, 7-8, and 20 above, and further in view of Drottar et al. ("Drottar"). Ruszczyk and Cidon teach all the limitations of Claims 5, 6, 21, and 22 except for the local node bridge circuit configured to translate a peripheral bus transaction into an upstream packet and forward it upstream, a dedicated node stream buffer coupled to said local node bridge circuit and configured to store said upstream packet, a processor, a bus bridge coupled to said processor, and a packet bus coupled to a packet bus device and said bus bridge (See Figure 4, Column 3 Lines 11-19 and 50-67, and Column 4 Lines 1-4 of Ruszczyk and Column 14 Lines 55-60 of Cidon). Drottar teaches a bridge which will convert a signal from a peripheral device into a packet before sending it to a queue (analogous to the buffer of Claims 6 and 14) and transmitting it to a destination (See Figures 1, 2, and 3, Column 4 Lines 41-61, and Column 5 Lines 29-54 of Drottar). Drottar further teaches a processor coupled to a bus bridge coupled to a NG I/O link (analogous to the packet bus of Claims 9-16) (See Column 4 Lines 5-22 of Drottar). One of ordinary skill in the art at the time the invention was made would combine the apparatus of Ruszczyk and Cidon with the bridge circuit, queue, processor, bus bridge, and NG I/O bus of Drottar, resulting in the inventions of Claims 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 21, and 22, in order to allow a wide variety of peripheral devices which do not use packet communications to be connected to the packet bus (See Column 4 Lines 44-57 of

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Drottar) and to allow the peripheral devices to be located remotely from the processing unit (See Column 4 Lines 4-5 of Drottar).


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Cleary whose telephone number is 703-305-5824. The examiner can normally be reached on Monday-Thursday (8-5:30), Alt. Fridays (8-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H. Rinehart can be reached on 703-305-4815. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5631.

tjc
August 6, 2003


XUAN M. THAI
PRIMARY EXAMINER
TC2100